

Notice of Allowability    10/764,808		Application No. Applicant(s)		
Reaminer	Notice of Allowability	10/764,608	LIU, AI-SEN	
The MAILING DATE of this communication appears on the cover sheet with the correspondence address—All claims being allowable. PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not include neverth for proviously mailed, a Notice of Indowance (PTOL-85) or other appropriate communication will be mailed in due course. TI NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the in of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.  1. ☑ This communication is responsive to 29 June 2004.  2. ☑ The allowed claim(s) is/are 1.9.  3. ☐ The drawings filed on are accepted by the Examiner.  4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some* c) ☐ None of the:  1. ☐ Certified copies of the priority documents have been received.  2. ☐ Certified copies of the priority documents have been received in Application No  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the international Bureau (PCT Rule 17.2(a)).  * Certified copies not received:				
All claims being allowable, PROSECUTION ON THE RRITS IS (OR REMAINS) CLOSED in this application. If not include neverwith previously mailed, a Notice of Allowance (PTOL-85) or other appropriate communication will be mail due course. TI NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from Issue at the in of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.  1.		C. J. Arbes	3729	
2. ☑ The allowed claim(s) is/are 1-9.  3. ☐ The drawings filled on are accepted by the Examiner.  4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some* c) ☐ None of the:  1. ☐ Cartified copies of the priority documents have been received.  2. ☐ Certified copies of the priority documents have been received in Application No  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).  *Certified copies not received:  Applicant has THREE MONTH'S FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.  5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTC-152) which gives reason(s) why the oath or declaration is deficient.  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  1) ☐ hereto or 2) ☐ to Paper No./Mail Date  teentifying indicia such as the application number (see 37 CFR 1.54(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).  Attachment(s)  1. ☐ Notice of Informal Patent Application (PTO-152)  2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date  Attachment(s)  1. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date  2. ☐ Action of Paper No./Mail Date  2. ☐ Examiner's Comment Regarding Requirement for Deposit of Biolog	All claims being allowable, PROSECUTION ON THE MERITS herewith (or previously mailed), a Notice of Allowance (PTOL-{NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT	IS (OR REMAINS) CLOSED 35) or other appropriate common RIGHTS. This application is	in this application. If not included nunication will be mailed in due co	ourse. THIS
3.	1. This communication is responsive to 29 June 2004.			
4.	2. The allowed claim(s) is/are <u>1-9</u> .			
a)	3. The drawings filed on are accepted by the Exami	iner.		
noted below. Failure to timely comply will result in ABANDONMENT of this application.  THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.  5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  1) ☐ hereto or 2) ☐ to Paper No./Mail Date  (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date  Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).  7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.  Attachment(s)  1. ☑ Notice of References Cited (PTO-892)  2. ☐ Notice of References Cited (PTO-892)  3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date  7. ☐ Examiner's Comment Regarding Requirement for Deposit  9. ☐ Other  8. ☑ Examiner's Statement of Reasons for Allowance of Biological Material	a) All b) Some* c) None of the:  1. Certified copies of the priority documents had 2. Certified copies of the priority documents had 3. Copies of the certified copies of the priority International Bureau (PCT Rule 17.2(a)).	ave been received. ave been received in Applicati	on No	n from the
INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.  (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached  1) ☐ hereto or 2) ☐ to Paper No./Mail Date  (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date  Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).  7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.  Attachment(s)  1. ☑ Notice of Draftperson's Patent Drawing Review (PTO-948)  3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date	noted below. Failure to timely comply will result in ABANDOI		e a reply complying with the requi	rements
(a)				FICE OF .
Attachment(s)  1. ☑ Notice of References Cited (PTO-892)  2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date  7. ☐ Examiner's Amendment/Comment Paper No./Mail Date  8. ☑ Examiner's Statement of Reasons for Allowance of Biological Material	(a) ☐ including changes required by the Notice of Draftsport 1) ☐ hereto or 2) ☐ to Paper No./Mail Date  (b) ☐ including changes required by the attached Examinapper No./Mail Date  Identifying indicia such as the application number (see 37 CFI each sheet. Replacement sheet(s) should be labeled as such in the company of t	erson's Patent Drawing Revie  er's Amendment / Comment or R 1.84(c)) should be written on n the header according to 37 C posit of BIOLOGICAL MAT	or in the Office action of the drawings in the front (not the ba FR 1.121(d). 'ERIAL must be submitted. Not	·
1. ☑ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 7. ☐ Examiner's Amendment/Comment Paper No./Mail Date 8. ☑ Examiner's Statement of Reasons for Allowance of Biological Material 9. ☐ Other C. J. Arbes		TOR THE BET COTT OF BI	OLOGICAL MATERIAL.	
Paper No./Mail Date  7. □ Examiner's Amendment/Comment Paper No./Mail Date  8. □ Examiner's Statement of Reasons for Allowance of Biological Material  9. □ Other  C. J. Arbes		5. Notice of I	nformal Patent Application (PTO-1	152)
3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date below  4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material  7. ☐ Examiner's Amendment/Comment 8. ☑ Examiner's Statement of Reasons for Allowance 9. ☐ Other  C. J. Arbes	2. Notice of Draftperson's Patent Drawing Review (PTO-948			
Primary Examiner Art Unit: 3729	Paper No./Mail Date <u>here</u> n. 4. ☐ Examiner's Comment Regarding Requirement for Depos	B/08), 7. ☐ Examiner's sit 8. ☑ Examiner's	s Amendment/Comment s Statement of Reasons for Allowa  C. J. Arbes Primary Examiner	ance

Application/Control Number: 10/764,608

Art Unit: 3729

## **Reasons for Allowance**

COMES NOW the Patent Office and opines at least a reason for the allowance of this Application :to wit: that the prior art neither teaches nor reasonably suggest the combination of steps which include, a method for dissociating copper oxides from copper surfaces, comprising the steps of providing a substrate with an insulating layer formed over the substrate; forming an interconnect pattern in the insulating layer, conformally depositing a barrier layer along the interconnect pattern, forming copper interconnects in the interconnect pattern and providing a supercritical fluid over the copper interconnect pattern in the insulating layer.

The preamble is given patentable weight in this instance.

Furthermore the Patent Office Saith not.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F, from 8 to 6. If any attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, P. Vo, can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

Application/Control Number: 10/764,608 Page 3

Art Unit: 3729

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

C. J. Arbes
Primary Examiner
Art Unit 3729